Fcar F502 EOBD/OBDII Code Reader User's Manual

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Fcar Series Product Operating Guide

- Before using FCAR F3 series product, please read the Guide carefully.
- The Guide is based on the current specifications and functions of the product. If the new

specifications and functions are added to the product, there will be corresponding changes in the Guide. The new Guide can be downloaded from the FCAR Company's website (http://www.fcar.com).

Please carefully read the "Note", " Remark " and "Introductions" of the Guide to ensure that you can use our products properly and safely.

FCAR F3 Series Main Unit Maintenance and Use Attentions

- Do not allow unauthorized demolition.
- Avoid strong impact to this machine.
- Prevent it from closing to the magnetic field.
- Do not put this machine in a hot environment for a long time.
- Do not put this machine at a low temperature environment for a long time.
- Do not have the screen impacted and keep the keys clean.
- Clean the machine with soft clean cloth and neutral detergent, instead of water or chemical solvents.

Automobile Inspection Notes

- Should operate the machine according to safety rules in auto repair industry. Special attentions should be paid in order to prevent the machine from being affected or damaged because of the environmental factors such as the surrounding pH, poison gas, high pressure, heavy objects, etc.;
- Vehicle battery fluid contains sulfuric acid, while sulfuric acid is corrosive to the skin. Therefore, in operation you should protect your skin from directly contacting with battery fluid. Particularly, make sure that they won't splash into your eyes. You should also avoid closing to fire;
- Engine exhaust emissions contains a variety of toxic compounds, so you should protect yourself from inhaling them. During operating, the vehicle should be parked in a well-ventilated place;
- The temperature of the working engine is high, so you should protect yourself from contacting with high temperature components such as water tank and exhaust pipes;
- Before starting the engine, you should hold the handbrake and have gear lever placed in neutral (Guide transmission) or P gear position (automatic transmission), so as to avoid the vehicle rushing out and result in accidents when you start the engine;
- Before repairing the vehicles, you should hold parking brake well, shift transmission gear

into the neutral position or P gear, and lower the glass doors and windows on the driver's seat side;

- If the engine can be started, you should firstly warm up it to a normal temperature (water temperature is at about 80 ℃), and close the auxiliary electrical appliances (such as air conditioning, lighting, loudspeaker, etc.);
- Find the diagnostic socket of this car, and check, confirm that whether the wires of the diagnostic socket are in good condition, and then connect the main unit for diagnosis. Otherwise, do not test, and avoid damage to the main unit. If necessary, you can use a multimeter to measure the voltage of diagnostic socket.

Instrument Use Notes

- When you use FCAR series products for testing, you must handle it with care and keep them away from heat source and electromagnetic field, so as to avoid interference with the main unit.
- When electrical components are energized, you cannot disconnect the circuit to prevent the self-inductance, mutual inductance from attacking sensors and automotive ECU.
- When electrical equipment works normally, you should avoid putting magnetic objects close to the vehicle control unit, otherwise the vehicle control unit may be damaged.
- Vehicle control unit or electrical components dismounting should be done only 1 minute after the ignition switch is turned off.

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1.1 Introduction to Fcar Code Readers

FCAR F501,F502 OBD Ⅱ /EOBD code readers are the latest portable vehicle code readers launched by FCAR Company. With them, the users can fast and efficiently read out the fault codes in automobile electric controlling system and then know where the fault codes are and how they happen through such fault codes read out. The code reader is applicable in all auto repairing factories. They are portable for car owners to at any time monitor whether there are faults in automobile electric controlling system. LED-guided operation instructions make them easy to understand and practical.

FCAR series code reader is applicable to the vehicles equipped with standard OBD Ⅱ diagnostic socket and can read and erase fault code and read data stream.

1.2 Introduction to Its appearance and Basic Functions

FCAR F501 and F502 series products are same in appearance and hardware configurations (mode, serial number that is affixed to the back of the product). 2.8-inch and 320*240 LED display is adopted. To meet the operation habit of each individual user, the appearance, menu and functions of the products are well-designed. It supports all-in-one function, multi-language choosing, and LED-guided operations, which makes it easy to operate and understand and quite practical.

Also, the product is applicable to vehicles with 8V ~ 32V working voltage, and is stable in work and can fully meet customers' different demands for diagnosis.

1、OK diagnosis normal indicator light: The indicator light is on in communication diagnosis.

2、OK diagnosis failure indicator light: The indicator light is on when there is a failure of communication diagnosis;

3、Voltage indicator light: The indicator light is on when the machine is connected to OBD Ⅱ diagnostic sockets.

4、Diagnosis communication line, which should be connected to OBD Ⅱ diagnostic sockets on the vehicle;

5、Up and down buttons

6、Enter: The button for confirmation;

7、USB data line interface: Backup interface for data connecting;

8、Exit: The button for cancellation and back.

1.2.1 F501 Gasoline OBD Ⅱ Code Reader

Features

- Support gasoline cars (1996~2013) which have OBD Ⅱ /EOBD and are used in areas like America, Europe and Asia;
- Check fault code general (P0、P2、P3、U0) and particular cars (P1、P3、U1);
- Display definitions of real-time data and storage and confirm “check the reasons of Malfunction Indicator Lamp (MIL) of the engine;
- Clear malfunction fault code and reset historical storage, and turn off the MIL of the engine;
- Display freeze frame data; and

- Retrieve vehicle information (VIN、CIN、CVN).

Diagnostic Protocol

- Generic OBDII and EOBDII
- OBDII SAEJ1850 VPW Mode
- OBDII SAEJ1850 PWM Mode
- OBDII ISO9141-2 ISO Address Mode
- OBDII ISO14230-4 KWP Address Mode
- OBDII ISO14230-4 KWP Fast Mode
- OBDII ISO15765-4 CANBUS 11BIT Mode
- OBDII ISO15765-4 CANBUS 29BIT Mode

Functions

- ✓ Read Stored Codes
- ✓ Read Pending Codes
- ✓ Erase Codes
- ✓ Read Freeze Frame
- ✓ Current Data
- ✓ I/M Readiness
- ✓ O2 Monitor Test
- ✓ On-Board Monitor Test
- ✓ Component Test
- ✓ Vehicle Information
- ✓ DTC Lookup

1.2.2 F502 Heavy truck Code Reader

Features

- Support vehicles that compatible with standard protocol of heavy-duty trucks (J1939 and J1708).
- Read DTC
- Support ECU of vehicles like CUMMINS、Bosch、DELPHI
- Be connected to OBD16 via diesel 6PIN and diesel 9PIN

Diagnostic Protocol

- J1587 Test
- J1939 Test

Functions

- ✓ Engine #1
- ✓ Turbocharger
- ✓ Transmission

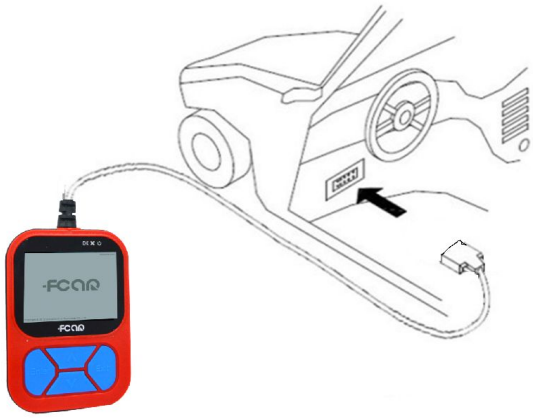
- ✓ Axle, Power Unit
- ✓ Axle, Trailer
- ✓ Brakes, Power Unit
- ✓ Brakes, Trailer #1
- ✓ Instrument Cluster
- ✓ Trip Recorder
- ✓ .....

1.3 Product Parameters

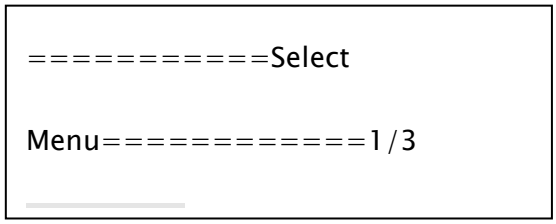
Screen size	2.8 inch 320*240 LCD
Work voltage	8V ~ 32V
Work current	Typical value <100mA
Connection method	Standard 16-PIN OBD diagnostic connector
Working temperature	0℃~ 50℃
Storage environment temperature	-20℃~70℃
Relative humidity	60%
Product size（mm）	123*88*27
Weight of the main unit	280g

1.4 Operation Methods

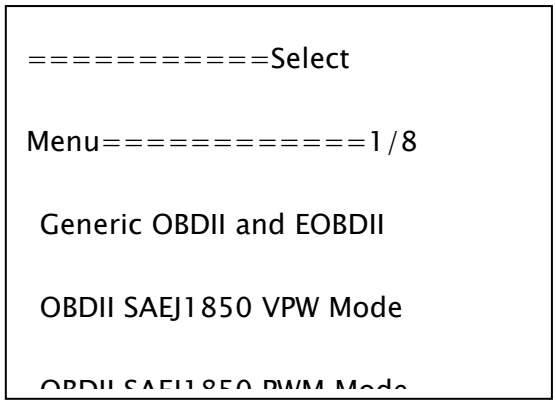
1、When the MIL of the engine of the vehicle with standard OBD Ⅱ diagnostic socket is lightened up, you must stop the vehicle as well as hold the brake, turn the key ignition to ON and then insert the FCAR code reader into 16pin diagnostic socket of the vehicle; standard OBD Ⅱ diagnostic socket generally is set below the steering wheel at the driver side.



2、Take F501 for example (the operations for F502 diesel code reader is similar). After being connected to diagnostic socket, FCAR reader will start automatically and display the logo of FCAR. A few seconds later, you will enter diagnosis interface and choose the function you want. If you want to do diagnosis, please choose “Diagnostics” and enter it by clicking the key “Enter”.

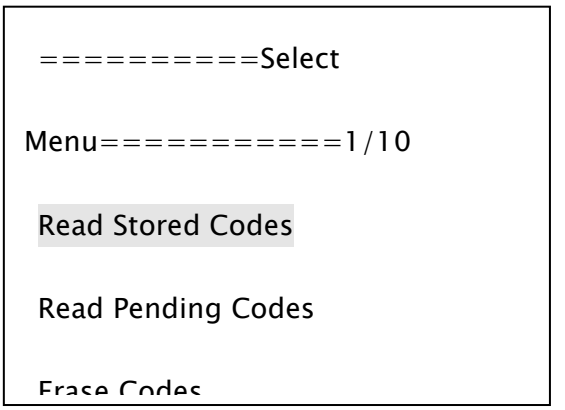


3、**Vehicle diagnosis**: Here, you can see the communication protocol available for standard OBD Ⅱ diagnosis of gasoline vehicle, and choose the item according to the actual conditions of the vehicle.

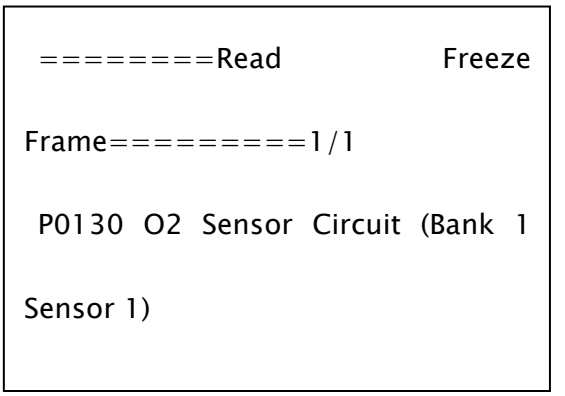


4、After you enter the system, you can read fault code, erase fault code and read data stream and others (When the content of the menu exceeds the largest part that the interface is able to

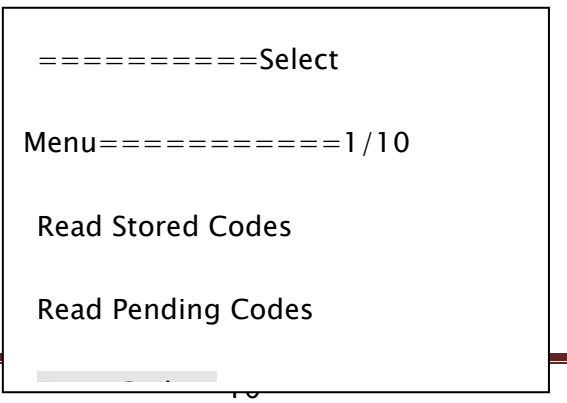
display, you choose the item by clicking up and down buttons). If there is communication failure prompted during the diagnosis, please check whether key switch is turned on or not, the diagnostic protocol selected is right or wrong and diagnostic socket on the vehicle has signal voltage or not, etc.



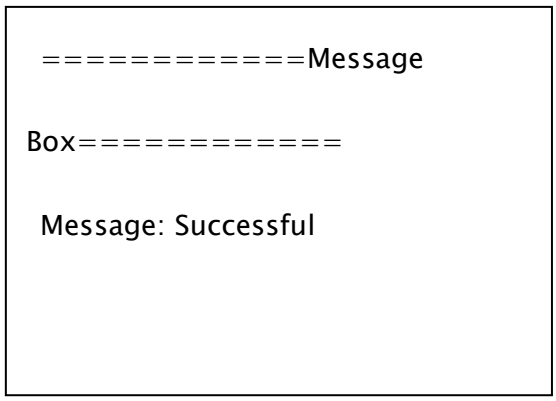
5、Read Stored Codes，e.g.:



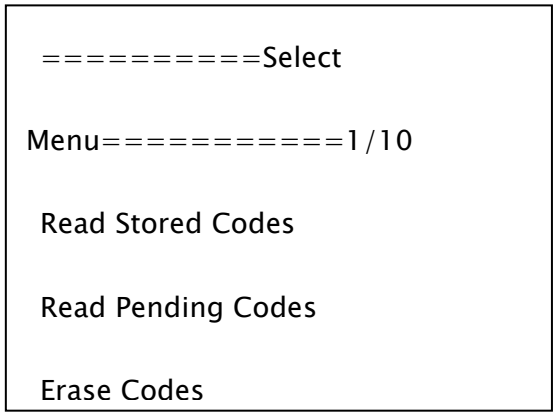
6、Erase Codes，e.g.:



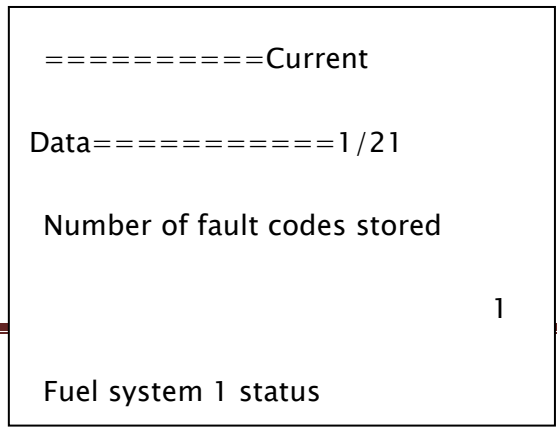
7、Erase Codes succeeds：



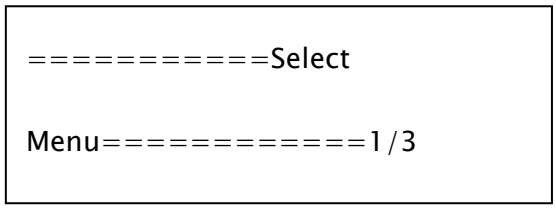
8、Current Data：Read the status of all current data stream in a timely manner



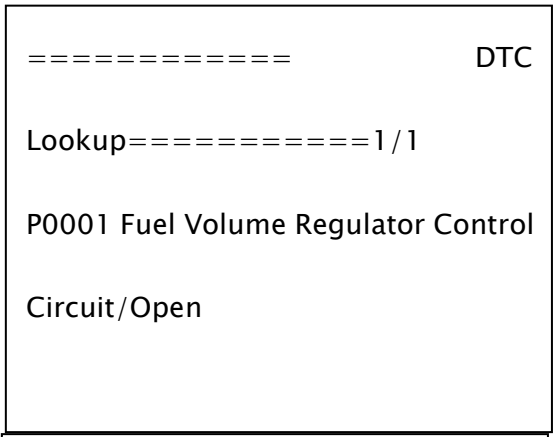
9、Current Data is displayed as follows，and you can browse them by clicking up and down buttons



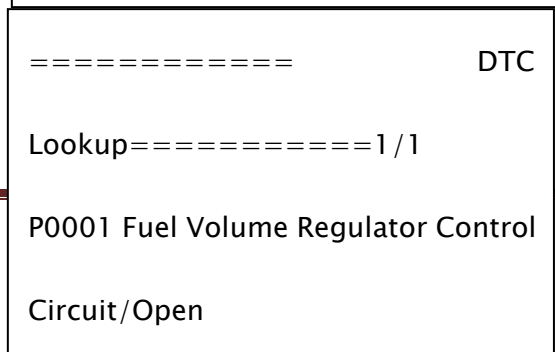
5、**DTC query:** Select DTC Lookup. This DTC query function is applicable to general standard DBD DTC. Therefore, if you cannot find the one you want on the screen, it suggests that the DTC is the one set by the manufacturers.



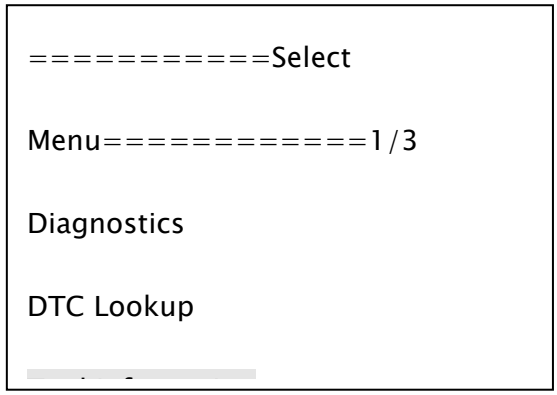
6、Here, you can find all standard OBDⅡ DTC. According to the tips below, you can query DTC by changing DTC number. This interface means that when you press up or down button, the DTC number will increase or reduce 1000 (“Step” for short) for once. If there is a need to change the step, please press Enter, and step will undergo cyclic change (like 1000→100→10→1→1000).



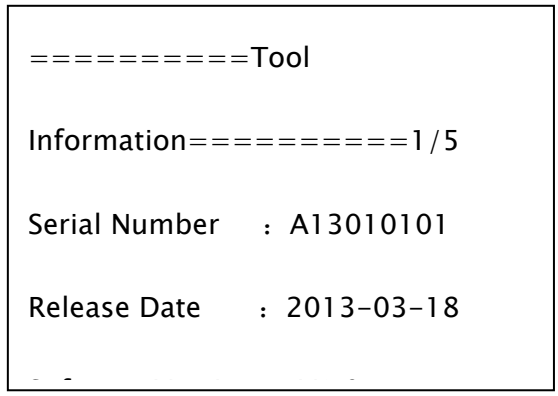
7、The interface is as follows when the step is switched to 10



7、**Product system information**：Including the information like serial number of the product



8、Serial Number, Release Date, Software Version, Hardware Version, Database Version, and so on



1.5 Product Configuration List

Number	Physical Map	Name	Description
1		Outer package	
2		Main unit of code reader	
3		Diesel-6	Note：This connector is only limited to F502
4		Diesel-9	Note：This connector is only limited to F502

5		Operating guide	Production introduction, operation methods, warrant clause, etc.

1.6 Warranty Clause

Dear Fcar users, welcome to choose Fcar F3-W products. In order to enjoy better use of the product, you are suggested to take good care of your products, and operate the products in accordance with the operating guide whenever you use it. If you can use the products pursuant to this requirement, you will enjoy long-term quality service provided by your products.

1. After you are sure that the following terms and conditions are met and you have carefully read the warranty clause of this product, you can enjoy the free maintenance service provided by FCAR Technology if there are some defects related to materials or workmanship on your products.
2. Your product must be purchased from product dealer that is authorized by Shenzhen Fcar Technology Co., Ltd (hereinafter referred to Fcar Technology). You have to bear the maintenance cost for your product if you buy the product through non-normal channels.
3. The following objects of the product is out of the warranty range: Operating guide, items that are easy to wear and tear such as inner and outer package box
4. Since the date when the products are purchased, if the products suffer performance failure caused by non-human factors, you can choose our maintenance services or replace the product with the same model within 15 days. You can enjoy one year warranty service for the main unit
5. You may not enjoy free warranty service if the products are in any of the following cases:

1）Failure, defect or flaw that do not belong to the quality of Fcar Technology products: including your use of the product not according to the product instruction, improper operation of the product, crash, fall, disassembly by yourself, connection of improper accessories, damage owing to crash because of improper transport or storage of the product, the erosion and corrosion, etc. that caused by infiltration of liquid or food.

2）The natural wear and tear of product: Including but not limited to cover, keypad, accessories etc.

3）Product main unit serial number and warranty card product serial number do not match, and product quality inspection tag or bar code is removed, altered or damaged.

4）Maintenance and modification without the approval of Fcar Technology or FCAR distributor

6. In case of product quality problem or failure occurring during the warranty period, you can take the following measures:

1）You can dial customer service hot-line number of FCAR Technology: （+86）755-82904730, and get right service information.

2）After you get the valid response of our company, you have to post your products to the address (see the details following the warranty clause) designated by our company for repairing and maintenance, otherwise, you will not get timely repairing and maintenance. You will be responsible for the loss of your products.

7. In the process of product warranty, you should bear relevant cost arising before post your products to the places designated by Fcar Technology: including costs for package, transportation, delivery and insurance, etc.

8. If enjoying your free warranty service under this warranty clause is the only measure for the losses due to product defect within the product warranty period, Fcar technology shall not be liable for your direct or indirect loss.

9. All product warranty information, product features and specification changes will be posted on Fcar Technology latest promotional materials and Web site without further notice.